

## Surgery

Table 1.1 outlines the current number and ratio of consultants in surgery per 100,000 of the population in Ireland. Included in this table are the projected numbers of specialists per 100,000 of the population in 2024, should the current ratio remain static at the 2014 level. Table 1.1 also includes the research informed range of specialists per head of population as per expert stakeholder perspectives, the Hanly (2003) recommendations and the ratios in place, projected and/or recommended in comparable healthcare jurisdictions.

**Table 1.1 Surgery Consultant Posts (Private and Public) 2014-2024**

Specialty	2014		2024 *		Research informed range of specialists per head of population to 2024**	
	N	Rate Per 100,000 pop	N	Rate Per 100,000 pop	N	Rate Per 100,000 pop
Cardio-thoracic Surgery	25 (22 WTE)	0.5	27 (23 WTE)	0.5	27-34 (23-29 WTE)	.54-.68
General Surgery	190 (165)	4.1	204 (178 WTE)	4.1	199-346 (171-298 WTE)	4-6.95
Neurosurgery	25 (22 WTE)	0.5	27 (23 WTE)	0.5	20-44 (17-38 WTE)	.41-.88
Ophthalmic Surgery	81 (70 WTE)	1.8	87 (76 WTE)	1.8	81-183 (70-157 WTE)	1.62-3.67
Oral & Maxillo Facial Surgery	4 (3 WTE)	0.1	4 (4 WTE)	0.1	5-33.4 (4.3-29 WTE)	.1-.67
Orthopaedic Surgery	135 (117 WTE)	2.9	145 (126 WTE)	2.9	145-332 (126-286 WTE)	2.9-6.67
Otolaryngology	67 (58 WTE)	1.4	72 (63 WTE)	1.4	55-115 (47-99 WTE)	1.1-2.3
Paediatric Surgery	1 (1 WTE)	0.02	1 (1 WTE)	0.02	1.0-21 (.86-18 WTE)	.02-.42
Plastic Surgery	39 (34 WTE)	0.8	42 (37 WTE)	0.8	42-77 (37-66 WTE)	.8-1.54
Urologist	55 (48 WTE)	1.2	59 (51 WTE)	1.2	40-83 (34-71 WTE)	.8-1.67
<b>Total Surgery</b>	<b>647 (563 WTE)</b>	<b>14.0</b>	<b>696 (606 WTE)</b>	<b>14.0</b>	<b>615-1268 (530-1091 WTE)</b>	<b>12.1-25.45</b>
* Accounting for population growth and an unchanged ratio of consultants						
**The recommendation is based on information in Tables 1.2 and 1.3 and represents a range from the lowest to the highest ratio considered						

**Table 1.2 Estimated ratios of consultants per 100,000 of the population**

<b>Surgery</b>							
	<b>Public and private*</b>	<b>Hanly (2003)</b>	<b>Ireland - RCSI Rec'd</b>	<b>UK Rec'd</b>	<b>England – CfWI (actual in 2010 &amp; forecast for 2020)</b>	<b>Australia Rec'd</b>	<b>New Zealand Rec'd</b>
<b>Surgery - total specialty</b>	14:100,000	16.13:100,000	16.74:100,000	19.1 – 19.3:100,000	Actual:13.8, Forecast:18.44 per 100,000	20:100,000	18.64:100,000
<b>Cardio-thoracic</b>	.5:100,000	0.56:100,000	0.63:100,000	0.57:100,000	Actual 0.57, Forecast 0.5:100,000	0.68:100,000	0.64:100,000
<b>General/Vasc</b>	4.1:100,000 (3.6 general, 0.5 vascular)	4.69:100,000 (3.28 general, 1.41 vasc.)	4.88:100,000	4:100,000	Actual 3.5, Forecast 4.9:100,000	6.95:100,000 (6.25 general, 0.7 vascular)	6:100,000 (5.7 general, 0.3 vascular)
<b>Neurosurgery</b>	0.5:100,000	0.41:100,000	0.58:100,000	0.5:100,000	Actual 0.41, Forecast 0.56:100,000	0.88:100,000	0.5:100,000
<b>Ophthalmic surgery</b>	1.8:100,000	1.72:100,000	1.62:100,000 (ICO 1.43)	2.1:100,000	Actual 1.85, Forecast 2.29:100,000	3.67:100,000	2.47:100,000 (actual in 2012)
<b>Oral &amp; Maxillofacial surgery</b>	0.1:100,000	0.66:100,000	0.66:100,000	0.5:100,000	Actual 0.53, Forecast 0.67:100,000	-	-
<b>Otolaryngology</b>	1.4:100,000	1.41:100,000	1.34:100,000	2:100,000	Actual 1.1, Forecast 1.4:100,000	1.72:100,000	2.3:100,000
<b>Paediatric surgery</b>	0.01:100,000	0.33:100,000	0.3:100,000	0.4:100,000	Actual 0.25, Forecast 0.42:100,000	0.37:100,000	0.36:100,000
<b>Plastic surgery</b>	.8:100,000	1.02:100,000	0.95:100,000	1:100,000	Actual 0.63, Forecast 1.1:100,000	1.54:100,000	1.34:100,000
<b>Trauma &amp; Orthopaedic surgery</b>	2.9:100,000	4:100,000	4.38:100,000	6.67:100,000	Actual 3.78, Forecast 5.12:100,000	4.76:100,000	6.1:100,000
<b>Urology</b>	1.2:100,000	1.25:100,000	1.42:100,000	1.67:100,000	Actual 1.18, Forecast 1.48:100,000	1.45:100,000	1.4:100,000

*\*Ireland public and private is based on data from the HSE (excluding spec purpose contracts and career breaks) and the RCSI ( private sector estimates)*

**Table 1.3 Background Information**

<b>Overall Specialty View:</b>	
<b>Ireland - General Overview from the RCSI and the Clinical Programme for Surgery</b>	<p>The recommendations for Ireland outlined in Table 12.2, column 4 above are made by the Royal College of Surgeons in Ireland and the National Clinical Programme for Surgery and are based on the number of specialists per head of population variance from Australia, New Zealand, England &amp; Wales in 2011. These are used to inform the number of additional consultants considered to be appropriate for Ireland over the next five to ten years. In deciphering the appropriate number of additional consultants required, the age profile impact of the current number of surgeons who are over 55 and working in public hospitals has been considered. Therefore, the expected effect of retirements over the next five to ten years has been allowed for.</p> <p>There are 588.5 surgeons currently working in the Irish public and private sectors combined. Of these, 440.5 work in the public sector only. When this number is compared to the recommendations made in the Hanly Report (2003), a public sector shortfall of 297 surgeons is noted. There are 979.5 surgeons in Australia; 849.5 in New Zealand; 746.5 in Wales and 672.5 in England. When considered in terms of comparable population based averages across these jurisdictions, 186 additional consultants are deemed appropriate to service the surgical workforce for the next 5 – 10 years. This equates to a recommended ratio of 16.74 surgeons per 100,000 of the population. See Tables below for a more detailed breakdown of surgical specialty data for more information.</p>

**Table 1.3.1 Map of Ireland current surgery specialist per head of population**

Ireland					
References	HSE Intranet Sep 2013 HR HSE information (inc career break). Public Hosp.(WTE) 2013 Irish Medical Directory 2013-2014	Private Hosp & Private Hosp Web Info Oct 2013			
Surgery Consultants					
Specialty	Current Public (Locum)	Current Private *	Public & Private Combined	Female Consultant Population	Age >55 ***
Cardio- thoracic	18 (3)	2	20	2	2
General/Vascular	171 (9)	24	195	15	48
Neuro	14	9	23	0	3
Ophthalmology	34.5 (2)	30.5	65	20	11
Oral & Maxillio	8	2	10	1	
Otolaryngology (ENT)	44 (4)	13	57	7	11
Paediatric	7	1	8	0	
Plastic	23	12 **	35	6	2
Trauma & Orthopaedics	87 (8.5)	36.5	123.5	6	12
Urology	34 (3)	18	52	3	4
<b>TOTAL</b>	<b>440.5</b>	<b>148</b>	<b>588.5</b>	60	93

\* Current Private consultant numbers or sessions not fully validated by Private Hospitals

\*\* 3 perform cosmetic surgery only

\*\*\* Age > 55 applies to HSE Hospitals only

**Table 1.3.2 Map of Australia, New Zealand, England & Wales 2011 Specialist per head of population variance (+/-) to Ireland  
Additional Consultants appropriate for next 5 -10 years**

	Ireland	Australia	New Zealand	England	Wales	International Average
<b>References</b>	HSE Intranet Sep 2013.Public Hosp.(WTE) 2013 Irish Medical Directory 2013-2014	2011 Surgical Workforce projection to 2025 Royal Australasian College of Surgeons	2011 Surgical Workforce projection to 2025 Royal Australasian College of Surgeons -New Zealand	Surgical Workforce 2011 a report from the RCSE. * Royal College of Ophthalmology	Surgical Workforce 2011 a report from the RCSE	Australia New Zealand England Wales
	Consultant Population	Total Ire vs. Australia Variance (+/- ) for a similar population	Total Ireland vs. New Zealand Variance (+/-) for a similar population	Total Ireland vs. England Variance (+/-) for a similar population	Total Ireland vs. Wales Variance (+/-) for a similar population	Total Ire vs. International Norms Variance (+/-) for a similar population
<b>Specialty</b>	<b>Public &amp; Private</b>					
Cardio- thoracic	<b>20</b>	- 14	- 4	- 8	0	<b>- 9</b>
General/Vascular	<b>195</b>	- 144	- 60	+ 16	- 7	<b>- 31</b>
Neuro	<b>23</b>	- 20	+ 2	+ 2	+ 6	<b>- 4</b>
Ophthalmology	<b>65</b>			- 9*	- 16*	<b>- 10</b>
Oral & Maxillio	<b>10</b>			- 19	- 37	<b>- 20</b>
Otolaryngology-ENT	<b>57</b>	- 28	- 23	+ 6	- 10	<b>- 5</b>
Paediatric	<b>8</b>	- 10	- 9	- 5	- 1	<b>- 6</b>
Plastic	<b>35</b>	- 41	- 23	+ 4	+ 14	<b>- 9</b>
Trauma & Ortho	<b>123.5</b>	- 115	- 142	- 59	- 92	<b>- 79</b>
Urology	<b>52</b>	- 19	- 2	- 12	- 15	<b>- 13</b>
<b>TOTAL</b>	<b>588.5</b>					

\* Source data Royal College of Ophthalmology Note: Given the zero values for Oral and Maxillio Facial Surgery and Ophthalmology in Aus / NZ there is a concern with the +/- values at the individual specialties.

**Table 1.3.3 Map of Ireland current specialist per head of population recommended ratio for 2013**

Ireland		
References	HSE Intranet Sep 2013.Public Hosp.(WTE) 2013 Irish Medical Directory 2013-2014	Hanly Report 2003 Ireland Specialty Recommended Appropriate Cons Population
Specialty	Public Only	Public Shortfall compared to Hanly Recommendation
Cardio- thoracic	18	- 8
General/Vascular	171	- 44
Neuro	14	- 5
Ophthalmology	34.5	- 45
Oral & Maxillio	8	- 22
Otolaryngology (ENT)	44	- 21
Paediatric	7	- 8
Plastic	23	- 24
Trauma & Orthopaedics	87	- 97
Urology	34	- 23
<b>TOTAL</b>	<b>440.5</b>	<b>- 297</b>

The overall shortfall for public consultants is 297 from the number recommended in the Hanly report generated in 2003

**New Zealand**

The Royal Australasian College of Surgeons (2013) workforce projections for New Zealand infer that current levels of training and retention of surgeons will be sufficient to replace those retiring; to permit some change in the work-lifestyle imbalance; and to address the increased health requirements of an ageing population in to the future.

New Zealand's average of 27 surgeons graduating and entering the workforce each year since 2005 is considered enough to match the predicted requirement to replace those retiring and to permit some change in the work-lifestyle imbalance. Due to a combination of growth in surgical training, increased productivity and New Zealand's attraction of overseas trained surgeons, a margin of 10-15 surgeons additional to the minimal replacement requirements will be available to meet the increasing demands of the ageing population. Key drivers considered in making surgical workforce projections for New Zealand include: changing population demographics; numbers in training and the adequacy of these to the delivery of required services within the current models of care; changes in the way care is delivered; retention of surgeons; improved productivity. Below is an outline of the population based ratios recommended by the RACS (2013) to be maintained to 2026.

**Table 1.3.4 Recommended Ratios of Surgeons per head of Population for New Zealand (RACS, 2013)**

Surgery	2012 WTE no. of positions	2012 headcount (0.87 rate)	Recommended Ratios (2012 – 2026) MET Calculation	Recommended Ratios (2012 – 2026) RAC rate	2026 WTE positions required	2026 headcount (0.87 rate)
Cardiothoracic	24	28	0.64: 100,000	1:183,550	27	31
General	219.5	252	5.7: 100,000	1:20,069	247.5	284
Neurosurgery	19	22	0.5: 100,000	1:231,853	21.5	25
Orthopaedic	233	268	6.1: 100,000	1:18,906	262.5	302
ENT	88	101	2.3: 100,000	1:50,059	99	114
Paediatric	13.5	16	0.36: 100,000	1:326,311	15	17
Plastic	51.5	59	1.34: 100,000	1:85,538	58	67
Urology	54.5	63	1.4: 100,000	1:80,829	61.5	71
Vascular	12.5	14	0.32: 100,000	1:352,416	14	16
Total	714.5	821	18.6: 100,000	1:6,165	806	926

**Australia**

**Table 1.3.5 Number and Per Head of Population Rate of Surgeons Working in Australia (AIHW, 2014)**

Specialty	<i>n</i>	Rate per 100,000 population
General Surgery	1319	5.7
Orthopaedic surgery	1131	4.9
Otolaryngology	402	1.7
Plastic surgery	367	1.6
Urology	344	1.5
Other surgery	713	3.1
Total surgery	4275	18.6

*The estimated rate above is based on a population of 23m in Australia between 2012 and 2013*

The Royal Australasian College of Surgeons (2011) notes that Australia is facing a surgical workforce crisis within the next thirteen years unless there is a substantial increase in the number of graduating surgeons. Acknowledging the shortcomings related to the use of population based ratios to determine an appropriate surgical workforce, the RACS outlined what they deemed to be appropriate ratios for a conservative demand based scenario\*. These ratios are as follows:

- Cardio-thoracic = 0.68 specialists: 100,000 population
- General = 6.25 specialists: 100,000 population
- Vascular = 0.7 specialists: 100,000 population
- Neurosurgery = 0.88 specialists: 100,000 population
- Orthopaedic = 4.76 specialists: 100,000 population
- Otolaryngology = 1.72 specialists: 100,000 population

- Plastic = 1.54 specialists: 100,000 population
- Urology = 1.45 specialists: 100,000 population
- Paediatric = 0.37 specialists: 100,000 population \*\*
- Total = 20: 100,000 specialists: 100,000 population

(\*No definition for a conservative demand based scenario is contained within the report  
 \*\*The paediatric ratio was calculated as 51: 100,000 population aged 14 years and under. There were 83 surgeons in 2010 to achieve this ratio. Applying this workforce to the 2010 total population of 22,328,847 gives the ratio of 0.37: 100,000)  
 These ratios are reflective of those deemed to adequately and safely service the population in times of conservative demand during 2010 and are recommended to 2025. However, the population is expected to increase and its average age profile will rise. As such, these ratios will likely be challenged by increasing retirements, increased workload, decreased working hours and policy to reduce reliance on international medical graduates (IMGs).

**United Kingdom**

The Royal College of Surgeons of England (RCSEng, 2011) noted there to be a total of 6,888 surgeons practicing in England, Wales and Northern Ireland in 2010. Below are the recommended ratios per 100,000 of the population as per the RCSEng and subspecialty collaborative workforce planning outputs.

**Table 1.4 Surgeons working in England, Wales and Northern Ireland (based on data from RCSEng, 2011)**

<b>Number of Surgeons working in England, Wales and Northern Ireland</b>			
<i>Specialty</i>	<i>n</i>	<i>Rate per 100,000 population</i>	<i>Rec'd Ratio per 100,000 population</i>
General surgery	2087	3.6	4
Urology	726	1.2	1.67
Trauma and orthopaedic surgery	2056	3.5	6.67
Otolaryngology	638	1.1	2
Oral and maxillofacial surgery	369	0.6	0.5
Plastic surgery	334	0.6	1
Cardiothoracic surgery	279	0.5	0.57
Neurosurgery	254	0.4	0.5
Ophthalmic surgery	-	-	1.82 – 2
Paediatric surgery	145	0.2	0.37
	6,888	11.7	19.1 – 19.3

*Note: According to the Office for National Statistics, the population of England (53.5 million), Wales (3.1 million) and Northern Ireland (1.8 million) was 58.4 million in 2011. Data from surgical specialty associations, RCSEng surgical database, RCSEng survey April 2010 (excluding ophthalmic surgery) (RCSEng, 2011), Royal College of Ophthalmologists (2013).*

A more detailed outline of the recommended ratios for surgical subspecialties into the future is outlined in Table 12.4 below

**Table 1.5: Breakdown of Data and Recommendations per Subspecialty in Ireland and Internationally**

<b>Surgical Specialty Breakdown</b>	
<b>Cardiothoracic Surgery</b>	
<b>Hanly (2003)</b>	Hanly recommended a ratio of 1:178,000 cardio-thoracic surgeons to provide a consultant delivered service by 2013. This equates to .56 per 100,000 of the population
<b>RCSI – Joint Clinical Programme &amp; Training Body &amp; Faculty Submission</b>	There are 20 cardio-thoracic surgeons currently working in the Irish public and private sectors combined (18 of these work in the public sector only, giving a public shortfall of 8 in comparison to what the Hanly report recommended in 2003). There are 34 in Australia, 24 in New Zealand, and 28 in England. Based on this information, the international average is found to be 29 and thus, 9 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 0.63: 100,000.
<b>England (Centre for Workforce Intelligence)</b>	<p>Cardiothoracic Surgery is one of the smaller surgical specialties representing approximately five per cent of England’s entire surgical workforce. According to the 2010 Information Centre census (NHS IC, 2011a) there are 296 WTE (299 headcount) consultants. The latest available data records 320 whole-time equivalent consultants (320 headcount) including locums (Electronic Staff Record (ESR), extracted 14 April 2011).</p> <p>Centre for Workforce Intelligence (CfWI) modelling indicates that the Cardiothoracic Surgery workforce is forecast to decrease by about nine per cent over the next ten years. The estimated demand for cardiothoracic surgeons is forecast to remain greater than the supply during this decade. The supply-demand gap may grow further if retirements are not catered for. To avoid further undersupply in cardiothoracic surgery, the Centre for Workforce Intelligence recommends the recruitment of 23 people to existing training posts in 2012. Additionally, efforts should be made to maintain the existing cardiac workforce, whilst growing the thoracic workforce.</p> <p>HSE-MET note: the actual ratio of 0.57: 100,000 has been calculated by dividing the 299 headcount into the population figure of 52.2 million for 2010. The forecast ratio of 0.5: 100,000 has been calculated by dividing the forecast headcount of 281 into the forecast population figure of 56.6 million for 2020.</p>
<b>UK: England, Northern Ireland and Wales</b>	<p>The Society for Cardiothoracic Surgery in Great Britain and Ireland (SCTS) (2010) recommends a total of 330 consultant cardiothoracic surgeons in England, Wales and Northern Ireland to be achieved by 2015. Expansion of the size of the consultant workforce is advised in order to reach this target.</p> <p>HSE-MET note: This equates to a population based ratio of .57:100,000, using an approximate population projection of 59 million in 2015.</p>
<b>Australia</b>	In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics, for times of conservative demand. For cardio-thoracic surgery, the cited ratio is 0.68: 100,000.
<b>New Zealand</b>	The Royal Australasian College of Surgeons (2013) recommend a ratio of 1:183,550 cardiothoracic surgeons per head of population (0.64: 100,000).
<b>General Surgery/Vascular</b>	

<b>Hanly (2003)</b>	Hanly recommended a ratio of 1:21,300 general surgeons to provide a consultant delivered service by 2013. This equates to 4.7 per 100,000 of the population.
<b>RCSI/Clinical Programme</b>	There are 195 general/vascular surgeons currently working in the Irish public and private sectors combined (171 of these work in the public sector only, giving a public shortfall of 44 in comparison to what the Hanly report recommended in 2003). There are 339 in Australia, 255 in New Zealand, 202 in Wales, and 179 in England. Based on this information, the international average is found to be 226 and thus, 31 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 4.88: 100,000.
<b>England Only (CfWI factsheets 2010/2011)</b>	<p>General surgery is a large specialty representing approximately one quarter of England's entire surgical workforce according to the National Health Service (NHS) Information Centre (IC) 2010 census. The Centre for Workforce Intelligence modelling indicates that the General Surgery workforce is forecast to grow significantly in the medium term, and the demand for general surgeons is estimated to be overtaken by the supply in the next five to ten years.</p> <p>The most recent data from the Information Centre census (NHS IC, 2011a) records a headcount of 1,850 (1,803 WTE) consultants in General Surgery employed in England on 30 September 2010. The Royal College of Surgeons of England (RCSEng, 2005) report 'Developing a Modern Surgical Workforce' recommends a ratio of one whole-time equivalent (WTE) consultant per 25,000 population. This recommendation has been continued in the Royal College of Surgeons of England 2010 Surgical Workforce Report (RCSEng, 2010) with the aim to maintain the 2005 recommendation. If this level of demand does not change, the supply of consultants is expected to reach and then exceed the estimated demand in 2013, when the consultant whole-time equivalent (WTE) is expected to be about 2,147.</p> <p>The supply of General Surgery consultants over the next ten years is forecast to increase to around 2,670 whole-time equivalent (approximately 2,777 headcount) in 2020. The upcoming growth in General Surgery Certificate of Completion of Training (CCT) holders and potentially slower growth in substantive positions confirms a concern from stakeholders that the growth in Certificate of Completion of Training (CCT) holders may be too strong. To avoid a cyclical swing scenario, the Centre for Workforce Intelligence recommends a stepped reduction in National Training Numbers from 158 to 123 over the next three years. The phasing of this reduction is intended to reduce numbers while minimising the impact on service provision.</p> <p>HSE-MET note: the actual ratio of 3.5: 100,000 is calculated by dividing the headcount of 1,850 into the population figure of 52.2 million for 2010. The forecast ratio of 4.9: 100,000 is calculated by dividing the forecast headcount of 2,777 into the forecast population figure of 56.6 million for 2020.</p>
<b>UK: England, Northern Ireland and Wales</b>	<p>The Association of Surgeons of Great Britain and Ireland (ASGBI) recommend a consultant workforce ratio of 1:25,000 population and an overall maintenance of current consultant surgeon numbers. This ratio will vary for each general surgery subspecialty, for example the Association of Breast surgery and the British Transplantation Society require an increased amount of consultants in their specialties to meet public need, whereas the Vascular Society and the Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland recommend maintenance of their current consultant surgeon numbers.</p> <p>The Vascular Society in London was contacted by HSE-MET and a response was received from Denis Harkin, a consultant vascular surgeon from the Belfast Health and Social Care Trust. He advised that historically in the United Kingdom, vascular services were delivered by general surgeons and as such robust figures could not previously be calculated. Regarding current estimates, the Provision of Vascular Services 2012 document suggests 1 vascular surgeon per 150,000 population, and for large tertiary centres this ratio may increase to 1 per 100,000 (due to complexity of case load). These figures were derived from available evidence and comparison with</p>

	<p>other similar countries where data exists. For example, in Australia (where vascular surgery has been a specialty for many years) in 2009 there was a ratio of 1 vascular surgeon per 147,000. In Europe, the ratio varies from 1: 80,000 to 1: 250,000. Harkin advised that a key consideration for the Republic of Ireland is that the scope of care is a little different as vascular surgeons do a lot of procedures which are currently carried out by interventional radiologists in the United Kingdom, increasing the need for surgeons in Ireland. The Provision of Vascular Services 2012 document bases the ratio of 1 vascular surgical specialist per 150,000 on volume of workload. A population of 100,000 generates an average of 70 (range 46-92) arterial operations, 47 (range 40-75) IR procedures and 81 (range 32-125) venous operations per annum (excluding renal access surgery). To deal with these volumes, a hospital with a vascular service needs a minimum of one vascular surgical specialist per 150,000 population. An equivalent number of interventional radiologists will be required to provide emergency care. This represents a minimum estimate of the number of consultants required until more detailed workload figures are available.</p>
<b>Australia</b>	<p>In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics for times of conservative demand. For general surgery, the cited ratio is 6.25: 100,000. For vascular surgery, the cited ratio is 0.7: 100,000.</p>
<b>New Zealand</b>	<p>The Royal Australasian College of Surgeons (2013) recommend a ratio of 1:20,069 general surgeons per head of population (5.7: 100,000 population) and a ratio of 1:352,416 vascular surgeons per head of population (0.3 per 100,000 population).</p>
<b>Neurosurgery</b>	
<b>Hanly (2003)</b>	<p>Hanly recommended a ratio of 1:245,000 neurosurgeons to provide a consultant delivered service by 2013. This equates to .4 per 100,000 of the population.</p>
<b>RCSI/Clinical Programme</b>	<p>There are 23 neurosurgeons currently working in the Irish public and private sectors combined (14 of these work in the public sector only, giving a public shortfall of 5 in comparison to what the Hanly report recommended in 2003). There are 43 in Australia, 21 in New Zealand, 17 in Wales, and 21 in England. Based on this information, the international average is found to be 27 and thus, 4 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 0.58: 100,000.</p>
<b>England Only (CfWI factsheets 2010/2011)</b>	<p>Neurosurgery is a smaller specialty representing approximately three per cent of England's entire consultant surgical workforce, according to the 2010 Information Centre (IC) census. The Centre for Workforce Intelligence modelling indicates that the neurosurgery workforce is forecast to grow over the medium term and the demand for neurosurgery is estimated to be matched in the next five years and then exceeded. The most recent data from the National Health Service (NHS) Information Centre (IC) for Health and Social Care census (NHS IC, 2011a) records a headcount of 216 (213 WTE) consultants in neurosurgery employed in England on 30 September 2010. The supply of Neurosurgery Certificate of Completion of Training (CCT) holders over the next ten years is forecast to increase to 314 whole-time equivalent (318 headcount) by 2020, which is an average increase of 3.96 per cent annually.</p> <p>HSE-MET note: the actual ratio of 0.41: 100,000 is calculated by dividing the headcount of 216 into the population figure of 52.2 million for 2010. The forecast ratio of 0.56: 100,000 is calculated by dividing the forecast headcount of 318 into the forecast population figure of 56.6 million for 2020.</p>
<b>UK: England, Northern Ireland and Wales</b>	<p>The Society of British Neurological Surgeons (SBNS) recommends a consultant workforce ratio of 5:1,000,000 to be achieved by 2015. In order to achieve this target, an expansion in the size of the consultant workforce is recommended. The figure of 5 consultants per million population (0.5:100,000) as recommended by the Society of British Neurological Surgeons and the Royal College of Surgeons of England in 2009 was based on the recommendations of the British Neurosurgical Workforce Plan document of 2000 – 2015, the prevalent activity levels and the 10 Programmed Activities (PA) consultant job plan. However, it did not take into account the subsequent pressures such as</p>

	National Health Service (NHS) targets, 18 week pathway, European Working Time Directive (EWTD), increasing sub-specialisation, and now the most recent pressure being the trauma centre issue. Therefore, the recommendation should likely be greater.
<b>Australia</b>	In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics, for times of conservative demand. For neurosurgery, the cited ratio is .88: 100,000.
<b>New Zealand</b>	The Royal Australasian College of Surgeons (2013) recommend a ratio of 1:231,853 neurosurgeons per head of population (0.5: 100,000 population).
<b>Ophthalmic surgery</b>	
<b>Hanly (2003)</b>	Hanly recommended a ratio of 1:58,000 ophthalmic surgeons to provide a consultant delivered service by 2013. This equates to 1.7 per 100,000 of the population.
<b>RCSI/Clinical Programme</b>	There are 65 ophthalmic surgeons in the Irish public and private sectors combined (34.5 of these work in the public sector only, giving a public shortfall of 45 in comparison to what the Hanly report recommended in 2003). The Royal College of Ophthalmology UK report 74 ophthalmic surgeons in England and 81 ophthalmic surgeons in Wales. Based on this information, RCSI and the Clinical Programme find the international average (based on England and Wales having a similar population to Ireland) to be 75 meaning that Ireland requires 10 more ophthalmic surgeons to join the existing 65 over the next five to ten years. This number (75) divided into the 2014 population of 4,626,423 gives a recommended ratio of 1.62 ophthalmic surgeons per 100,000 of the population.
<b>Ireland - Joint submission from the Irish College of Ophthalmologists and the Clinical Programme for Ophthalmology</b>	<p>Ireland's population is ageing and life expectancy is increasing. Current Central Statistics Office (CSO) figures estimate that the number of Irish citizens over 65 years will double from 2006 to 2026. This means that in a little over 10 years time, 1 million Irish people will be 65 years or older. With lifelong ocular disease prevalence set to double by 2050, early detection and effective management of sight threatening conditions is crucial, particularly if we are to alleviate future dependency on health care services.</p> <ul style="list-style-type: none"> <li>• Irish and international data show that the risk of vision loss and blindness increase with age. At present, despite the best efforts of the healthcare system in Ireland, 220,000 Irish people live with vision loss or blindness. Given the growing incidence in key underlying causes of vision loss such as obesity and diabetes, these projected numbers probably represent an underestimation of the likely number of Irish people to have vision loss and blindness by 2026.</li> <li>• Vision loss and blindness have major social and economic impacts on people's daily lives. Up to 75% of vision loss and blindness can be avoided by early detection and early treatment of common eye diseases. While early detection and treatment programmes will require adequate resources, they result in significant savings.</li> <li>• Hanly's (2003) recommendation of 1 ophthalmic surgeon per 58,000 people is referred to in the submission. The number of consultant ophthalmic surgeon posts in 2003 was 35. To implement Hanly's recommended ratio, 67 consultant posts would have been needed. No increase in numbers has occurred in the interim. The Irish College of Ophthalmologists (ICO) recommends the following: <ul style="list-style-type: none"> <li>o Consultant surgeons (aim for 1: 70,000 meaning 19 new posts). This gives a recommended ratio of 1.43: 100,000</li> <li>o Medical ophthalmologists (aim for 1: 40,000 combined with consultant meaning 14 extra posts)</li> <li>o The current Community Ophthalmic Services Scheme (COSS) for medical practitioners should be upgraded by the Health Service Executive (HSE) to the Community Ophthalmic Medical Treatment Scheme (COMTS) and the roll out of this scheme to the remaining Community Ophthalmic Services Scheme (COSS) contractors should take place sooner rather than later.</li> <li>o The Irish College of Ophthalmologists (ICO) supports the introduction of part-time/job-sharing arrangements</li> <li>o For the management of Age-related Macular Degeneration alone, the Royal College of Ophthalmologists recommend a ratio of medical retinal specialists of 1: 300,000 (we currently have 11 retinal specialists (surgical and medical) in Ireland. We would need to appoint 10 medical retinal specialists alone to meet this need).</li> </ul> </li> </ul>

<b>England Only (CfWI factsheets 2010/2011)</b>	<p>For surgical ophthalmology, the National Health Service (NHS) Information Centre (IC) census records a headcount of 996 (925 whole-time equivalent) consultants working in England on 30 September 2010. Ophthalmology is a large specialty representing approximately 14% of England's entire consultant surgical workforce. The increasingly ageing population is causing demand to rise for the treatment of age-related maculopathy and diabetic retinopathy. The supply of consultants is forecast to increase to 1,185 whole-time equivalent (1,295 headcount) in 2020, an average increase of 2.5% annually.</p> <p>HSE-MET note: the actual ratio of 1.85: 100,000 is calculated by dividing the headcount of 996 into the population figure of 52.2 million for 2010. The forecast ratio of 2.29: 100,000 is calculated by dividing the forecast headcount of 1,295 into the forecast population figure of 56.6 million for 2020.</p>
<b>UK: England, Northern Ireland and Wales</b>	<p>The Royal College of Ophthalmologists in the United Kingdom (2013) recommends that there should be one WTE consultant per population of 55,000. This is the equivalent of 1.8 per 100,000 of the population. Converted into headcount, using a WTE rate of .87, this is the equivalent of 2.1 consultants per 100,000 of the population.</p>
<b>Australia</b>	<p>The Australian Institute of Health and Welfare (2014) estimate that there were 832 specialists working in ophthalmology in 2012 (whereby ophthalmology was their main specialism). This equates to a ratio of 3.67 per 100,000 of the population for 2012 (the population of Australia in 2012 was 22.68 million). It does not state how much of this workforce is medical or surgical.</p>
<b>New Zealand</b>	<p>According to the International Council of Ophthalmology (as cited by Resnikof et al., 2012), there were 114 ophthalmologists in New Zealand as of 10 April 2012. 95 per cent (108) were doing surgery (as opposed to medical ophthalmology). The population of New Zealand in 2012 was approximately 4,368,136, yielding a ratio of 2.47: 100,000.</p>
<b>Oral &amp; Maxillofacial surgery</b>	
<b>Hanly (2003)</b>	<p>Hanly recommended a ratio of 1:151,000 oral and maxillofacial surgeons to provide a consultant delivered service by 2013. This equates to .7 per 100,000 of the population.</p>
<b>RCSI/Clinical Programme</b>	<p>Oral &amp; Maxillofacial surgery: there are 10 oral &amp; maxillofacial surgeons currently working in the Irish public and private sectors combined (8 of these work in the public sector only, giving a public shortfall of 22 in comparison to what the Hanly report recommended in 2003). There are 47 in Wales and 29 in England. Based on this information, the international average is found to be 30 and thus, 20 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 0.65: 100,000.</p>
<b>UK: England, Northern Ireland and Wales</b>	<p>The Royal College of Surgeons of England (2011) refer to the recommendation of the British Association of Oral and Maxillofacial Surgeons (BAOMS) to have a consultant workforce ratio of 1:200,000 population and a slight expansion for maxillofacial consultant numbers to meet public need in the United Kingdom.</p>
<b>England Only (CfWI factsheets 2010/2011)</b>	<p>The most recent data from the Information Centre (IC) census (NHS IC, 2011a) records a headcount of 279 (259 whole-time equivalent) Oral and Maxillofacial surgeons employed in England on 30 September 2010. The Royal College of Surgeons of England (RCSEng) and the British Association of Oral and Maxillofacial Surgery (BAOMS) estimate that the ratio of consultants to population should be 1 whole-time equivalent (WTE) consultant to 200,000 population. This recommended ratio is expected to be exceeded based upon projected increases to Certificate of Completion of Training (CCT) holder numbers.</p> <p>If future levels are estimated by taking consultant supply in 2010 and increasing it at the rate of population growth, 307 whole-time equivalent (WTE) consultants will be needed by 2020. The supply of oral and maxillofacial surgeons over the next ten years is forecast to increase to 347 whole-time equivalent (WTE) in 2020 (approximately 381 headcount), an average increase of 3.4 percent annually.</p>

	<p>Oral and maxillofacial surgery is a large specialty representing approximately 41 per cent of England's entire consultant dental workforce, according to the National Health Service (NHS) Information Centre (IC) 2010 census. The Centre for Workforce Intelligence modelling indicates that the oral and maxillofacial surgery workforce is forecast to grow slowly over the medium-term and that demand for oral and maxillofacial surgeons is estimated to be marginally overtaken in the next five to ten years.</p> <p>HSE-MET note: the actual ratio of 0.53: 100,000 has been calculated by dividing the headcount of 279 into the population figure of 52.2 million for 2010. The forecast ratio of 0.67: 100,000 has been calculated by dividing the forecast headcount of 381 into the forecast population figure of 56.6 million for 2020.</p>
<b>Otolaryngology</b>	
<b>Hanly (2003)</b>	Hanly recommended a ratio of 1:71,000 otolaryngology surgeons to provide a consultant delivered service by 2013. This equates to 1.4 per 100,000 of the population.
<b>RCSI/Clinical Programme</b>	There are 57 ear, nose and throat (ENT) surgeons currently working in the Irish public and private sectors combined (44 of these work in the public sector only, giving a public shortfall of 21 in comparison to what the Hanly report recommended in 2003). There are 85 in Australia, 80 in New Zealand, 67 in Wales, and 51 in England. Based on this information, the international average is found to be 62 and thus, 5 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 1.34: 100,000.
<b>England Only (CfWI factsheets 2010/2011)</b>	<p>The most recent data from the Information Centre (IC) census (NHS IC, 2011a) records a headcount of 571 (547 whole-time equivalent) consultants in Otolaryngology employed in England on 30 September 2010. The Royal College of Surgeons of England (RCSEng) and the British Association of Otolaryngologists (ENT UK) estimated in 2010 that for Otolaryngology one whole-time equivalent (WTE) consultant is required per 50,000 population. The supply of consultants in Otolaryngology is forecast to increase to 794 whole-time equivalent (WTE) by 2020 (approximately 815 headcount), which is an average increase of 3.8 per cent annually.</p> <p>Centre for Workforce Intelligence modelling indicates that the Otolaryngology workforce is forecast to grow over the medium term by over 240 whole-time equivalent (WTE), and that the estimated demand for Otolaryngology is not expected to be met within the next 10 years.</p> <p>The upcoming significantly large growth in Certificate of Completion of Training (CCT) holders in Otolaryngology, together with the potentially slower growth in substantive positions, confirms the concern from stakeholders that the growth in Certificate of Completion of Training (CCT) holders is too strong. With a view to addressing current service demands and reducing the significant risk of oversupply, the Centre for Workforce Intelligence recommends a sustained reduction of 12 National Training Numbers to be phased in by the end of 2014.</p> <p>HSE-MET note: the actual ratio of 1.1: 100,000 is calculated by dividing the headcount of 571 into the population figure of 52.2 million for 2010. The forecast ratio of 1.4: 100,000 is calculated by dividing the forecast headcount of 815 into the forecast population figure of 56.6 million for 2020.</p>
<b>UK: England, Northern Ireland and Wales</b>	The Royal College of Surgeons of England (2011) refer to the recommendation of the British Association of Otolaryngologists (ENT UK) for a consultant workforce ratio of 1:50,000 population and an expansion of current consultant numbers. The British Association of Otolaryngologists noted that there are a sufficient number of trainees to support expansion but consultant numbers are not being made

	available by Trusts.
<b>Australia</b>	In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics, for times of conservative demand i.e. for otolaryngology, the cited ratio is 1.7: 100,000.
<b>New Zealand</b>	The Royal Australasian College of Surgeons (2013) recommend a ratio of 1:50,059 otolaryngologists per head of population (2.3: 100,000 population).
<b>Paediatric surgery</b>	
<b>Hanly (2003)</b>	Hanly recommended a ratio of 1: 301,000 paediatric surgeons to provide a consultant delivered service by 2013. This equates to .3 per 100,000 of the population.
<b>RCSI/Clinical Programme</b>	There are 8 paediatric surgeons currently working in the Irish public and private sectors combined (7 of these work in the public sector only, giving a public shortfall of 8 in comparison to what the Hanly report recommended in 2003). There are 18 in Australia, 17 in New Zealand, 9 in Wales, and 13 in England. Based on this information, the international average is found to be 14 and thus, 6 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 0.3: 100,000.
<b>England Only (CfWI factsheets 2010/2011)</b>	<p>Paediatric Surgery is one of the smaller surgical specialties, representing approximately 2 per cent of England's entire surgical workforce according to the National Health Service Information Centre 2010 census (NHS IC, 2011a). The census reports that there are 133 whole-time equivalent (WTE) (133 headcount) consultant paediatric surgeons employed in England as at September 2010. This indicates a participation rate (a division of WTE by headcount, representing staff members' pattern of working) of one. The supply of consultants in Paediatric Surgery is forecast to increase to 240 whole-time equivalent (WTE) in 2020 (240 headcount), an increase of about 80 per cent and maintaining the participation rate of one.</p> <p>HSE-MET note: the actual ratio of 0.25: 100,000 is calculated by dividing the headcount of 133 into the population figure of 52.2 million for 2010. The forecast ratio of 0.42: 100,000 is calculated by dividing the forecast headcount of 240 into the forecast population figure of 56.6 million for 2020.</p>
<b>UK: England, Northern Ireland and Wales</b>	<p>The Royal College of Surgeons of England (RCSEng) report entitled <i>Surgery for Children Delivering a First Class Service</i> recommends one paediatric surgeon for every 250,000 of the general population (0.4: 100,000).</p> <p>The Royal College of Surgeons of England (2011) refer to the British Association of Paediatric Surgeons (BAPS) recommendation to have a total of 218 consultant paediatric surgeons to meet public need in the United Kingdom. For the population of England, Northern Ireland and Wales (58.4 million), this number of paediatric surgeons (218) yields a recommended ratio of 1: 267,889.91 or 0.37: 100,000 which can be rounded to 0.4: 100,000.</p>
<b>Australia</b>	<p>In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics, for times of conservative demand. For paediatric surgery, the cited ratio is 0.37: 100,000.</p> <p>HSE-MET note: the recommended ratio for paediatric surgery was calculated as 51 per 100,000 of population aged 14 years and under, and there were 83 surgeons in 2010 to achieve this ratio. Applying this workforce to the 2010 total population of 22,328,847 yields the ratio of 0.37: 100,000.</p>
<b>New Zealand</b>	The Royal Australasian College of Surgeons (2013) recommend a ratio of 1: 326,311 paediatric surgeons per head of population (0.36:100,000 population).
<b>Plastic surgery</b>	

<b>Hanly (2003)</b>	Hanly recommended a ratio of 1:98,000 plastic surgeons to provide a consultant delivered service by 2013. This equates to 1 per 100,000 of the population.
<b>RCSI/Clinical Programme</b>	There are 35 plastic surgeons currently working in the Irish public and private sectors combined (23 of these work in the public sector only, giving a shortfall of 24 in comparison to what the Hanly report recommended in 2003). There are 76 in Australia, 58 in New Zealand, 21 in Wales, and 31 in England. Based on this information, the international average is found to be 44 and thus, 9 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 0.95: 100,000.
<b>England Only (CfWI factsheets 2010/2011)</b>	<p>Plastic Surgery is a small specialty representing approximately 5 per cent of England's entire consultant surgical workforce, according to the 2010 National Health Service Information Centre (NHS IC) census. The most recent data from the census (NHS IC, 2011a) records a headcount of 330 (314 WTE) consultants in plastic surgery employed in England on 30 September 2010. The supply of consultants is forecast to increase to 578 whole-time equivalent (WTE) in 2020 (approximately 621 headcount), an average increase of 8 per cent annually. Centre for Workforce Intelligence modelling indicates that the plastic surgery workforce is forecast to grow over the medium-term and demand for plastic surgery is estimated to be met by 2020, based upon projected Completion of Certificate of Training (CCT) holders.</p> <p>HSE-MET note: the actual ratio of 0.63: 100,000 has been calculated by dividing the headcount of 330 into the population figure of 52.2 million for 2010. The forecast ratio of 1.1: 100,000 has been calculated by dividing the forecast headcount of 621 into the forecast population figure of 56.6 million for 2020.</p>
<b>UK: England, Northern Ireland and Wales</b>	The British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS) recommend a consultant workforce ratio of 1:100,000 population by 2018. In order to achieve this target an expansion in the size of the consultant workforce is recommended.
<b>Australia</b>	In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics, for times of conservative demand i.e. for plastic surgery, the cited ratio is 1.54: 100,000.
<b>New Zealand</b>	The Royal Australasian College of Surgeons (2013) recommend a ratio of 1:85,538 plastic surgeons per head of population (1.34:100,000 population).
<b>Trauma &amp; Orthopaedic surgery</b>	
<b>Hanly (2003)</b>	Hanly recommended a ratio of 1:25,000 trauma and orthopaedic surgeons to provide a consultant delivered service by 2013. This equates to 4 per 100,000 of the population.
<b>RCSI/Clinical Programme</b>	There are 123.5 trauma & orthopaedic surgeons currently working in the Irish public and private sectors combined (87 of these work in the public sector only, giving a public shortfall of 97 in comparison to what the Hanly report recommended in 2003). There are 238.5 in Australia, 265.5 in New Zealand, 215.5 in Wales, and 182.5 in England. Based on this information, the international average is found to be 202.5 and thus, 79 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 4.41: 100,000.
<b>England Only (CfWI factsheets 2010/2011)</b>	<p>The most recent data from the National Health Service Information Centre census (NHS IC, 2011a) records a headcount of 1,973 (1,896 whole-time equivalent) Trauma &amp; Orthopaedic consultants employed in England on 30 September 2010. The supply of Trauma &amp; Orthopaedic consultants is forecast to increase to around 2,771 whole-time equivalent (WTE) in 2020 (approximately 2,900 headcount), an average increase of 5 per cent annually.</p> <p>HSE-MET note: the actual ratio of 3.78: 100,000 is calculated by dividing the headcount of 1,973 into the population figure of 52.2</p>

	million for 2010. The forecast ratio of 5.12: 100,000 is calculated by dividing the forecast headcount of 2,900 into the forecast population figure of 56.6 million for 2020.
<b>UK: England, Northern Ireland and Wales</b>	<p>The historical view of the British Orthopaedic Association had been to recommend a ratio of one whole-time equivalent (WTE) per 25,000 population (Royal College of Surgeons of England, 2005). This viewpoint was revised in 2010 to recommend one whole-time equivalent (WTE) per 15,000 population, with an interim aim of 1:20,000 (RCSEng, 2010) by 2020. The recommendation and view of the BOA is, however, changing as there is recognition that the financial and service provision environment is altering. The current BOA view has moved away from a figure-based on a per capita ratio, and instead takes account of the estimated trauma and orthopaedic needs of the UK population. This is fitted into a model of growth, so that training and careers are not wasted through an over-production of surgeons who are unlikely to enjoy certainty of employment and a career over the next two decades.</p> <p>The British Orthopaedic Association used to cite ratios with an aspiration of 1 consultant per 15,000 population based on comparisons with other European countries. However, they now take a more analytical approach by using hospital episode statistics (HES) and other data. HES is a data warehouse containing details of all admissions, outpatient appointments and A&amp;E attendances at NHS hospitals in England. HES processes over 125 million admitted patient, outpatient and A&amp;E records each year. HES data is collected during a patient's hospital stay and is submitted to allow hospitals to be paid for the care they provide. It has a secondary use for non-clinical purposes such as health service research. The British Orthopaedic Association is currently collaborating with the Centre for Workforce Intelligence on a stock take of the projected Trauma &amp; Orthopaedic workforce in 2028. This uses a sophisticated horizon scanning and Delphi process.</p>
<b>Australia</b>	In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics, for times of conservative demand. For orthopaedic surgery, the cited ratio is 4.76: 100,000.
<b>New Zealand</b>	The Royal Australasian College of Surgeons (2013) recommend a ratio of 1:18,906 orthopaedic surgeons per head of population (6.1: 100,000).
<b>Urology</b>	
<b>Hanly (2003)</b>	Hanly recommended a ratio of 1:80,000 urologists to provide a consultant delivered service by 2013. This equates to 1.25 per 100,000 of the population
<b>RCSI/Clinical Programme</b>	There are 52 urological surgeons currently working in the Irish public and private sectors combined (34 of these work in the public sector only, giving a public shortfall of 23 in comparison to what the Hanly report recommended in 2003). There are 71 in Australia, 54 in New Zealand, 67 in Wales, and 64 in England. Based on this information, the international average is found to be 65 and thus, 13 additional consultants are deemed appropriate for the next 5 – 10 years, giving a recommended ratio of 1.42: 100,000.
<b>UK: England, Northern Ireland and Wales</b>	The British Association of Urological Surgeons (BAUS) recommends a consultant workforce ratio of 1: 80,000 population or 658 consultants in Urology. The specialty assesses a current need for more diagnostic and medical-style urologists. Additionally, if the ageing population is taken into account, the recommended ratio to meet public need will be 1: 60,000 population. The RCSEng and BAUS recommend an expansion of the current consultant numbers (RCSEng, 2011).
<b>England Only (CfWI factsheets 2010/2011)</b>	The most recent data from the NHS Information Centre (IC) for Health and Social Care medical census (NHS IC, 2011a) records a headcount (HC) of 614 (603 WTE) consultants, employed in England as of 30 September 2010. Using this census data, the supply of consultants in Urology over the next 10 years is forecast to increase to 818.5 whole-time equivalent (WTE) (840 headcount) in 2020, an average increase of 3 per cent annually.

	HSE-MET note: the actual ratio of 1.18: 100,000 is calculated by dividing the headcount of 614 into the population figure of 52.2 million for 2010. The forecast ratio of 1.48: 100,000 is calculated by dividing the forecast headcount of 840 into the forecast population figure of 56.6 million for 2020.
<b>Australia</b>	In 2010, the Royal Australasian College of Surgeons based their surgical services ratios on population as reported by the Australian Bureau of Statistics, for times of conservative demand. For urology, the cited ratio is 1.45: 100,000.
<b>New Zealand</b>	The Royal Australasian College of Surgeons (2013) recommend a ratio of 1:80,829 urologists per head of population (1.4:100,000).
<b>Surgical Oncology</b>	
<b>National Cancer Control Programme (NCCP)</b>	<p>Surgical oncology is carried out by a range of surgeons, across a wide variety of surgical subspecialties. Many general surgeons are involved in cancer surgery, such as breast surgery and G.I. surgery (e.g. colorectal surgery, hepatobiliary surgery). Urology, neurosurgery, thoracic surgery, paediatric surgery, plastic surgery and otolaryngology all incorporate significant oncology workloads. However, surgeons in these specialties also undertake a large amount of non-cancer related surgery, making it difficult to provide estimates for the appropriate number or ratio of consultants specifically related to surgical oncology. A surgical oncology workforce planning project is underway in the National Cancer Control Programme which will inform long-term service planning which will inform long term service planning. In this context, NCCP suggests referring to the RCSI for advice on surgical workforce planning as a whole. In relation to general surgery, it is estimated that 7 general surgery SpRs are required each year (NCCP surgical advisor 2013). Within surgical oncology, a key priority for expansion is in urology, where the existing number of consultants is not matching demand. The NCCP Key Performance Indicator for rapid access prostate clinics is ‘patients referred to RAC should be offered an appointment to attend within 20 working days of receipt of referral’. Currently, in a number of cancer centres, these KPIs for access to prostate rapid access cancer clinics are not being met. In some centres, the proportion of patients seen within target is as low as 5%. In relation to breast surgery, the National Cancer Registry predicts a 108% increase in breast cancer incidence in Ireland between 2010–2030. This will equate to 5,670 new cases per annum by the year 2030. In the medium term, it is estimated that about 10 breast consultants will be required in the next 10 years. The absence of a training programme in oral &amp; maxillofacial surgery is a concern in relation to current and future needs for some head and neck cancer treatments. Currently some cancer surgery is carried out overseas, due to the lack of a specific service with the appropriately skilled personnel in Ireland. An example of this is peritoneal cancer surgery which is currently carried out in Basingstoke in the UK under the E112 treatment overseas scheme. This surgery could be repatriated to a cancer centre in Ireland if funding were provided.</p>

**Notes:**

- We found the following numbers of consultants to be working in the public sector: 20 cardiothoracic; 53 otolaryngology; 166 general; 19 general with a special interest in vascular; 16 neurosurgery; 50 ophthalmic surgery; 2 oral & maxillofacial; 95 orthopaedic; 0 paediatric; 26 plastic; 35 urology (total of 482). Source: HSE Workforce Planning, Analysis, & Informatics Unit, Dec 2013
- We found the following numbers of consultants to be working in the private sector only: 5 cardiothoracic; 14 otolaryngology; 24 general; 6 vascular; 9 neurosurgery; 31 ophthalmic surgery; 2 oral & maxillofacial; 40 orthopaedic; 1 paediatric; 13 plastic; 20 urology (total of 165). Source: RCSI, Medical Directory; Google, and Hospital Websites, checked against data collected by the RCSI
- The WTE rate used herein is .87 (excluding specified purpose contract employees and those on career breaks). Source: HSE Workforce Planning, Analysis, & Informatics Unit, Dec 2013
- Population 2014 for Ireland is projected to be 4,626,423 using the M2F2 scenario CSO (2011)
- Population 2024 for Ireland is projected to be 4,979,921 using the M2F2 scenario CSO (2011)
- Population 2010 for England is approximately 52.2 million (Office for National Statistics, 2011)
- Information in the Tables above does not necessarily represent the views of HSE-NDTP